

REMARKS

The Official Action of October 6, 2010 has been carefully considered and reconsideration of the application as amended is respectfully requested.

Pending claim 1 has been cancelled and new claims 2-5 have been added. The new claims are supported in the specification as filed at page 1 lines 4-6, page 2 lines 21-25, page 4 lines 14-17 and claim 1.

35 U.S.C. 112, second paragraph

The Examiner has rejected claim 1 as being indefinite.

Claim 1 has been cancelled whilst new claim 2 makes it clear that the current-conducting holder is coated with an electroinsulating material at the air-electrolyte interface.

35 U.S.C. 102

The Examiner submits that claims are anticipated by *McNeill et al.*, (U.S. Pat. No. 3,293,158). Applicants respectfully traverse this rejection.

The claimed invention is directed to a method of producing a heavy protective coating on a metal or metal alloy valve part involving micro-arc oxidation. The method involves placing the valve part in an electrolyte on a current-conducting holder and producing a working voltage between the part and the electrolyte. The voltage is then increased until a micro-arc discharge is originated on the surface of the part and a protective coating is formed thereon. Finally the current-conducting holder is provided with a coating of an electroinsulating material at the air-

electrolyte interface portion which ensures that as the voltage is increased current reduction to the part is avoided.

Significantly the coating provided in the claimed invention is distinguished from the prior art bushings or sleeves which were used to cover the surfaces of current conduction holders and surfaces of parts which are not to be subjected to oxidation. See specification as filed at page 1 lines 8-15.

In the absence of the claimed electroinsulating material coating at the air-electrolyte interface the holder portion that is not immersed in the electrolyte forms a porous protective coating which results in current shunt and thus reduces current to the part. Consequently if the process is not terminated the material of the holder produces porous out-growths and subsequently disintegrates.

It has been found that providing the current-conducting holder with a coating comprising an electroinsulating material at the air-electrode interface avoids this current shunt and thus allows the protective coating on the valve part to grow further to produce a heavy protective coating that exhibits high adhesion on the valve surface, see specification as filed at page 3 line 24 to page 4 line 8.

Contrary to the present invention *McNeill et al* discloses an anodic spark reaction process for providing useful sleeves on assemblies of components made from different metals. The process involves preparing anodes in the form of cylindrical rods which are mounted in tight-fitting Teflon sleeves which serve to mask the anode surface at the air-electrolyte interface.

Applicants submit that the Teflon sleeves of *McNeill et al* do not provide a disclosure of a selective coating of electroinsulating material at the air-electrolyte interface portion that can

prevent current reduction to the part as the voltage is increased which facilitates the production of a coating with increased thickness.

Consequently Applicants submit that the cited reference does not show all features of the invention defined by the claims and thus the claims are not anticipated by *McNeil et al.*

35 U.S.C. 102

The Examiner submits that claims are anticipated by *Patel et al.*, (U.S. Pat. No. 6,197,178). Applicants respectfully traverse this rejection.

Contrary to the present invention *Patel et al* discloses a method for forming ceramic coatings by micro-arc oxidation in reactive metals. The process involves suspending at least two reactive metal bodies in an electrolyte bath. The bodies are suspended within the electrolyte bath on electrodes which have insulated exterior surfaces.

Applicants submit that *Patel et al* does not provide any specific disclosure of a method that involves the use of a current-conducting holder that has been selectively coated with a electroinsulating material at the air-electrolyte interface portion given that the electrodes of *Patel et al* have an insulted exterior over their entire surface.

Consequently Applicants submit that the cited reference does not show all features of the invention defined by the claims and thus the claims are not anticipated by *Patel et al.*

In view of the foregoing, it is respectfully submitted that all rejections and objections of record have been overcome and that this application is now in order for allowance. An early notice of allowance is earnestly solicited and is believed to be fully warranted.

Respectfully submitted,

Clifford J. Mass
c/o Ladas & Parry LLP
4640 Avenue of the Americas
New York, New York 10018-3738
Reg. No. 30086
Tel. No. (212) 708-1890